

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number  
**WO 2005/055869 A3**

(51) International Patent Classification<sup>7</sup>:

**A61F 2/44**

(21) International Application Number:

PCT/US2004/040244

(22) International Filing Date: 2 December 2004 (02.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/526,241 2 December 2003 (02.12.2003) US

(71) Applicant (for all designated States except US): ALPHATEC MANUFACTURING, INC. [US/US]; 6110 Corte Del Cedro, Carlsbad, CA 92009 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): PROSSER, Michael D. [US/US]; 5166 Whitman Way #208, Carlsbad, CA 92008 (US).

(74) Agent: LYON, Richard, E., Jr.; Holland & Knight LLP, 633 West Fifth Street, 21st Floor, Los Angeles, CA 90071-2040 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

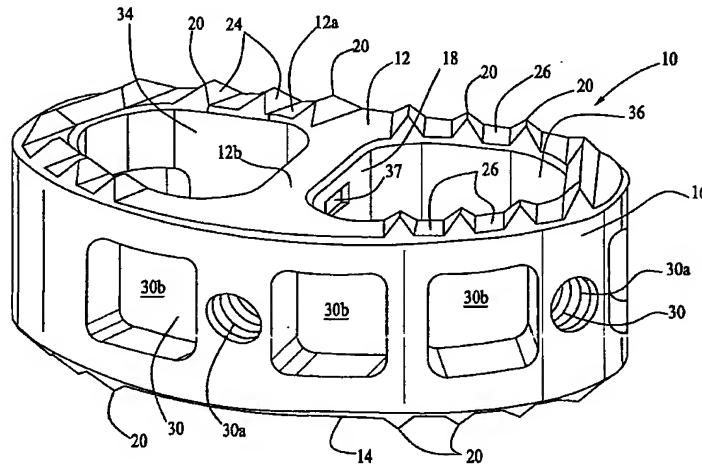
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,

[Continued on next page]

(54) Title: VERTEBRAL BODY REPLACEMENT CAGE ASSEMBLY



WO 2005/055869 A3

(57) Abstract: A cage assembly adapted to be implanted in a spinal column for treating degenerative or ruptured discs and replacing damaged vertebral bodies. The assembly includes one or more rigid cages formed in an annular configuration and having opposed upper and lower perimeter surfaces, an annular side wall extending between said surfaces, a transverse inner wall extending across said cage, a plurality of raised ridges projecting outwardly from each of said perimeter surfaces for engaging the spinal column and securing the assembly therein. Apertures are provided in the side wall for use in positioning said cage in the spinal column and a pair of aligned openings extend axially through the cage for packing the cage with bone graft material. At least one spacing element having the same annular configuration as the cages can be provided to effect the stacked attachment of one cage with another in rigid axial alignment.



CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,  
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,  
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,  
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM,  
ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA,  
SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ,  
BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,  
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,  
IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR),  
OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG)

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

**Published:**

- with international search report

**(88) Date of publication of the international search report:**

22 September 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*